

AMENDMENTS TO THE CLAIMS

1.(currently amended) A mounting information-collecting device which collects
~~for collecting mounting~~ information concerning ~~mounted statuses of~~ mounting of circuit boards
at a housing, including whether the circuit boards are each mounted in a predetermined position
at the housing, ~~by using an optical signal,~~ the ~~mounting information-collecting~~ device
comprising:

a light-emitting device means that emits ~~the~~ an optical signal;

a plurality of optical signal-processing elements means cascaded one after another along
a path of the optical signal, each of which processes that apply processing to the optical signal
passing therethrough in a manner ~~unique to~~ that depends on the position and/or conditions of
each of the circuit boards ~~to thereby generate a processed optical signal;~~ and

a mounting information-collecting unit means that receives the ~~processed~~ optical signal
that has traveled through said plurality of optical signal-processing elements and determines the
positions and/or conditions of the circuit boards being mounted at the housing by identifying
how the optical signal has been processed by said optical signal-processing elements and detects
~~whether or not the processing has been applied, to thereby collect the mounting information.~~

2.(currently amended) The mounting information-collecting device according to
claim 1, wherein said optical signal-processing elements ~~means~~ each comprise a first optical
filter portion for passing all wavelengths of the optical signal and a second filter portion for
removing a particular wavelength specifically associated with a corresponding one of the circuit
boards.

3.(currently amended) The mounting information-collecting device according to claim 2, wherein when the corresponding circuit board is not mounted, said optical signal-processing elements cause ~~means causes~~ the optical signal to enter said first optical filter portion, whereas when the corresponding circuit board is mounted, said optical signal-processing means causes the optical signal to enter said second optical filter portion.

4.(currently amended) The mounting information-collecting device according to claim 1, wherein ~~said signal-processing means applies the processing to the optical signal emitted from said light-emitting means~~ device has directional and non-diffusing properties, and said signal-processing elements have different mask patterns and having a directional property but not having a diffusing property, such that a cutoff pattern of the optical signal varies with each circuit board.

5.(currently amended) The mounting information-collecting device according to claim 1, wherein said optical signal-processing elements ~~means~~ are each formed by a controllable optical filter which applies wavelength filtering processing to the optical signal based on an electric signal delivered from said corresponding circuit board.

Claim 6.(cancelled)

7.(currently amended) A mounting information-collecting method which collects ~~of collecting mounting information concerning mounting of mounted statuses of circuit boards at~~

a housing, including whether the circuit boards are each mounted in a predetermined position at the housing, by using an optical signal, the mounting information collecting the method comprising the ~~step~~ steps of:

(a) emitting ~~an~~ the optical signal;

(b) supplying the optical signal along a single path to a plurality of positions where the circuit boards are to be mounted;

(c) at each of the circuit board positions, processing ~~applying processing to~~ the optical signal in a manner ~~unique to~~ that depends on the position and/or condition of each of the circuit boards to ~~thereby generate a processed optical signal;~~ and

(d) receiving the ~~processed~~ optical signal that has traveled through the circuit board positions, and determining the positions and/or conditions of the circuit boards being mounted at the housing by identifying how the optical signal has been processed and detecting whether or not the processing has been applied, to thereby collect the mounting information.

8.(currently amended) The mounting information-collecting method according to claim 7, wherein ~~the processing is performed by passing at said processing step (c) all~~ wavelengths of the optical signal are passed when the circuit board is not mounted, and ~~by removing~~ a particular wavelength of the optical signal specifically associated with each of ~~the~~ circuit board positions ~~boards~~ is removed [[,]] when the circuit board is mounted.

9.(currently amended) The mounting information-collecting method according to claim 7, wherein ~~the processing is applied to~~ the optical signal has directional and non-diffusing properties, and said processing step (c) uses different mask patterns to process the optical signal

~~having a directional property but not having a diffusing property, such that a cutoff pattern of the optical signal varies with each circuit board.~~

10.(currently amended) The mounting information-collecting method according to claim 7, wherein ~~the processing is performed by applying~~ said processing step (c) applies wavelength filtering processing to the optical signal based on an electric signal delivered from each of the circuit boards.